

What is claimed is:

1. A medical device for delivering an anti-restenotic composition comprising:

a stent having a generally cylindrical shape comprising an outer surface, an inner surface, a first open end, a second open end and wherein at least one of said inner or said outer surfaces are adapted to deliver an anti-restenotic effective amount of at least one proteasome inhibitor to a tissue within a mammal.

2. The medical device according to claim 1 wherein said stent is mechanically expandable.

3. The medical device according to claim 1 wherein said stent is self expandable.

4. The medical device according to claim 1 wherein said at least one proteasome inhibitor is present on both said inner surface and said outer surface of said stent.

5. The medical device according to claim 1 wherein at least one of said inner or said outer surfaces are coated with a polymer wherein said polymer has at least one proteasome inhibitor incorporated therein and said polymer releases said at least one proteasome inhibitor into said tissue of said mammal.

6. The medical device according to claim 1 wherein said at least one proteasome inhibitor inhibits or interferes with the normal biological function of a proteasome.

7. The medical device according to claim 6 wherein said at least one proteasome inhibitor is a boronic acid or C-terminal peptide aldehyde.

8. The medical device according to claim 7 wherein said boronic acid is bortezomib,

9. The medical device according to claim 7 wherein said C-terminal peptide aldehyde is selected from the group consisting of Carbobenzoxyl-L-Leucyl-Leucyl-Leucinal, Carbobenzoxyl-L-Leucyl-Leucyl-Norvalinal, Lactacystin, Epoxomicin and Carbobenzoyl-L-Isoleucyl-Gamma-t-Butyl-L-Glutamyl-L-Alanyl-L-Leucinal.

10. The medical device according to claim 6 wherein said at least one proteasome inhibitor is selected from the group consisting of peptide borates, peptide epoxoyketones, peptide vinyl sulfones, and ((-)-epigallocatechin-3-gallate.

11. The medical device according to claim 1 wherein said stent is delivered to said tissue of said anatomical lumen using a balloon catheter.

12. The medical device according to claim 1 wherein said tissue is a blood vessel lumen.

13. The medical device according to claim 5 wherein said polymer is selected from the group consisting of polyurethanes, silicones, polyolefins, polyisobutylene, ethylene-alphaolefin copolymers, acrylic polymers and copolymers, ethylene-co-vinylacetate, polybutylmethacrylate, vinyl halide polymers and copolymers, polyvinyl chloride; polyvinyl ethers, polyvinyl methyl ether, polyvinylidene halides, polyvinylidene fluoride, polyvinylidene chloride, polyacrylonitrile, polyvinyl ketones, polyvinyl aromatics, such as polystyrene, polyvinyl esters, such as polyvinyl acetate, copolymers of vinyl monomers with each other and olefins, such as ethylene-methyl methacrylate copolymers, acrylonitrile-styrene copolymers, ABS resins, and ethylene-vinyl acetate copolymers, polyamides, such as Nylon 66 and polycaprolactam, alkyd resins, polycarbonates, polyoxymethylenes, polyimides, polyethers, epoxy resins, polyurethanes, rayon, rayon-triacetate, cellulose, cellulose acetate, cellulose butyrate, cellulose acetate butyrate; cellophane, cellulose nitrate, cellulose propionate, cellulose ethers, carboxymethyl cellulose and combinations thereof.

14. A vascular stent comprising a polymeric coating containing an anti-restenotic effective amount of a proteasome inhibitor.

15. The vascular stent of claim 14 further comprising a parylene primer coat.

16. The vascular stent of claim 14 wherein said polymeric coating comprises a polybutylmethacrylate-polyethylene vinyl acetate polymer blend.

17. The vascular stent of claim 1 or claim 14 wherein said proteasome inhibitor is in a concentration of between 0.1% to 99% by weight of proteasome inhibitor-to-polymer.

18. The vascular stent according to claim 17 wherein said at least one proteasome inhibitor is a boronic acid or C-terminal peptide aldehyde.

19. The vascular stent according to claim 14 wherein said stent is delivered to a tissue of a mammal's anatomical lumen using a balloon catheter.

20. A method for inhibiting restenosis in a mammal comprising the site specific delivery of at least one proteasome inhibitor.

21. The method according to claim 20 wherein said proteasome inhibitor is delivered to a site at risk for restenosis using a vascular stent.

22. The method according to claim 20 wherein said proteasome inhibitor is delivered to a site at risk for restenosis using an injection catheter.

23. The method according to claim 20 wherein said at least one proteasome inhibitor is a boronic acid or C-terminal peptide aldehyde.

24. The method according to claim 23 wherein said boronic acid is bortezomib,

25. A method for inhibiting restenosis comprising providing a vascular stent having a coating comprising an anti-restenotic effective amount of bortezomib.